Drag and drop to make the statement below true.

Given the two functions $f(x) = x^2 - 4$ and $g(x) = 3\sqrt{x}$, $fog(x) =$ [1. $9x - 4$] the domain of $fog(x)$ is [2. the set of all real numbers such that $x \geq 0$]

$3x - 4$ | the set of all real numbers such that $x \geq 4$ | the set of all real numbers

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$3\sqrt{x} - 4$ | the set of all real numbers such that $x \neq \pm 2$ | $3\sqrt{x^2 - 4}$

1. $9x - 4$

2. the set of all real numbers such that $x \geq 0$

Given the function $f(x) = x^3 - 5x - 12$, find $a$ such that $f^{-1}(88) = a$

- $\frac{1}{88}$
- 125
- 5 ✓
- 681020

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Consider the function $g(x) = -x^3 + 5x$. Which of the following is true?

- [ ] The graph of $g(x)$ is symmetrical with respect to the $y$-axis.
- [x] $g(-x) = -g(x)$ ✓
- [ ] $g(-x) = g(x)$
- [ ] The domain of $g(x)$ is the set of all real numbers such that $x \neq -5$
- [x] The domain of $g(x)$ is the set of all real numbers ✓
- [ ] The graph of $g(x)$ is symmetrical with respect to the $x$-axis.
- [ ] $g(x)$ is an even function
- [x] $g(x)$ is an odd function ✓

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Given a function $g$ defined by $g(x) = -x^2 - 2x + 1$,

Then $g(2x - 3) = -$ 1. 4 ✓ $x^2 +$ 2. 8 ✓ $x -$

3. 2 ✓

1. 4 ✓

2. 8 ✓

3. 2 ✓

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The table represents the height, in feet, of an object that is thrown straight up, in terms of the time $t$ in seconds after the object is thrown. Find the average speed of the object from 1.5 to 2 seconds.

| **Time** | 0 | 0.5 | 1 | 1.5 | 2 |
|---|---|---|---|---|---|
| **Height** | 4 | 15 | 18 | 13 | 0 |

The average rate of change 1.5 to 2 seconds is 1. -26 ✓ .

The average speed from 1.5 to 2 seconds is 2. 26 ✓ ft/s.

1. -26 ✓

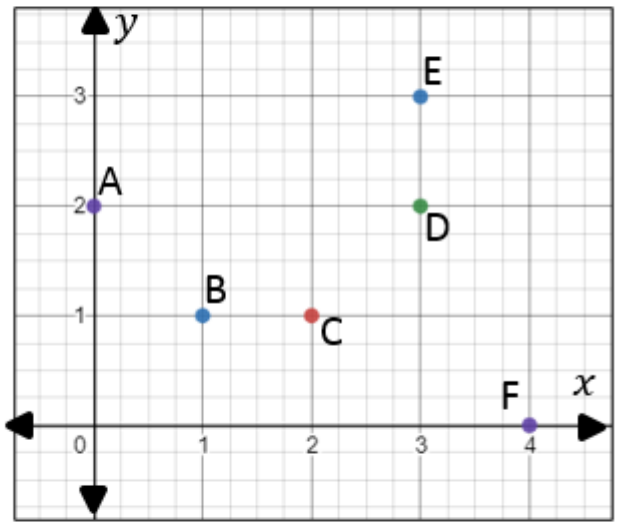
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2. 26 ✓

The grid shows the graph of a relation.

Fill in the blank.

The point 1. D ✓ , if removed, makes the relation a function? ( If more than one point exists, enter any of them)




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Alia and Hamda were asked what conclusions can they draw if $\lim_{x \to c} f(x) = k$.

**Hamda Conclusion**

"The function is continuous at $x = c$ and $f(c) = k$."

**Alia Conclusion**

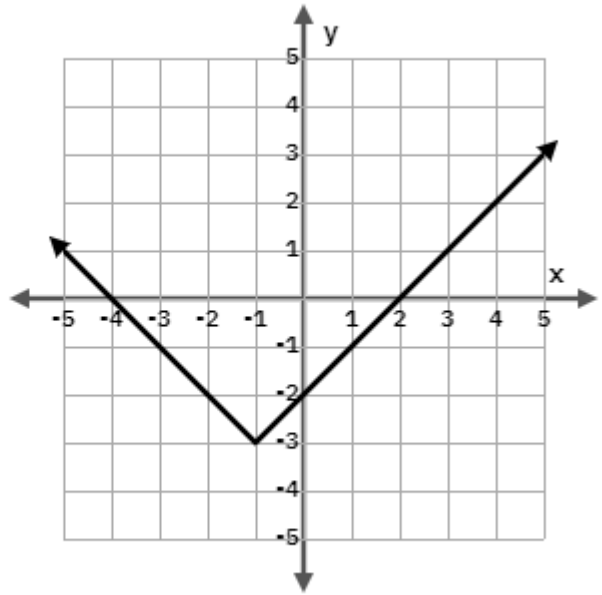
"The function has a removable discontinuity at $x = c$. "

Is either of the girls right?

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- ○ None is right.
- ○ Both are right.
- ○ Only Hamda is right.
- ◉ Only Alia is right. ✓

Use the graph of a function $f(x)$ to select the correct options.




- [ ] The range is the set of all real numbers such that $y \geq -1$
- [x] $f(x) = |x + 1| - 3$ ✓
- [ ] $f(x)$ has an inverse function over $(-\infty, +\infty)$
- [ ] $f(x) = |x - 1| - 3$
- [x] The range is the set of all real numbers such that $y \geq -3$ ✓
- [ ] The inverse function is $g(x) = x - 2$

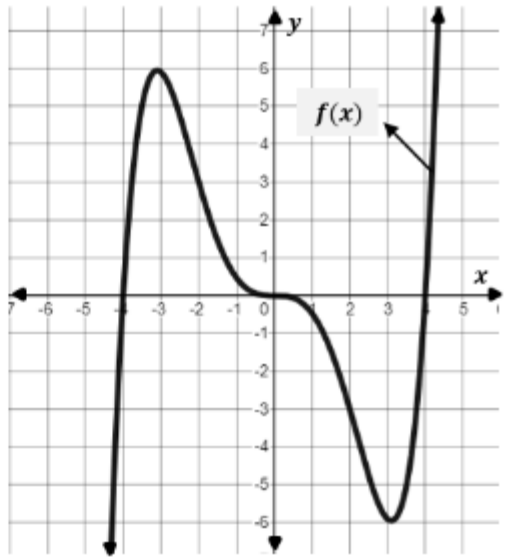
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Use the graph of $f(x)$ to complete each statement. Choose from the drop-down menu.

$f(x)$ has an extremum at 1. $(-3, 0)$ and $(3,0)$

$f(x)$ is increasing on the interval 2. $(-\infty, -3) \cup (3, \infty)$

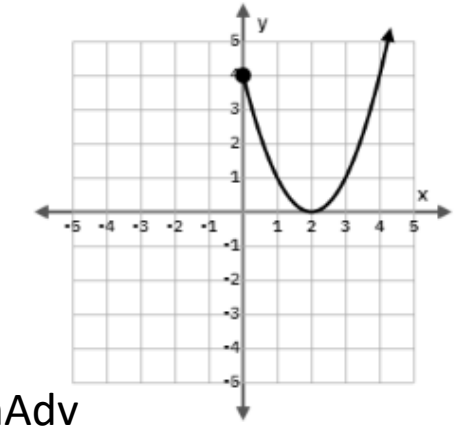
$f(x)$ has 3. 3 critical points.




1. $(-3, 0)$ and $(3,0)$ https://t.me/Grade10GenAdv

$(-3,6)$ and $(3,-6)$

A part of the graph of an even function $f(x)$ is shown. Which of the following completes the graph of $f(x)$?




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